

ABSTRACT

This specification relates to a semiconductor device that comprises a semiconductor substrate 11, a source region 12 and a drain region 13, which are formed
5 on the semiconductor substrate 11 with a channel region 14 therebetween; a floating gate electrode 152 that is formed on the channel region 14 with a gate insulator film 151 therebetween; a ferroelectric film 154 that is formed on the floating gate electrode 152; and a control gate
10 electrode 156 that is formed on the ferroelectric film 154, wherein intermediate insulator films 153 and 155 are formed between at least one of the pairs consisting of the floating gate electrode 152 and the ferroelectric film 154, and the ferroelectric film 154 and the control gate
15 electrode 156, and the intermediate insulator films 153 and 155 are made of hafnium oxide that contains nitrogen atoms.